



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

841 Chestnut Building
Philadelphia, Pennsylvania 19107

Mr. Frederick Griffith
21 East 37th Street
New York, New York 10016

APR 03 1989

Dear Mr. Griffith:

This letter is a follow-up to our February 6, 1989 meeting held in the Philadelphia Regional Office of the Environmental Protection Agency (EPA). It is also a response to the proposal you submitted to EPA to address the contamination problem at the Ambler Asbestos Site.

At the meeting, you were told by the Agency that the proposal does not contain sufficient technical detail for analysis as a remedial cleanup action for the Ambler Site. Further, your proposal did not address the nine criteria that EPA requires and that were submitted to you. Accordingly, the Agency has determined that your proposed alternative remedy for the Ambler Site is unacceptable.

You then proposed, however, that a bench top study be conducted to verify the effectiveness of your technique. It appears that your intention is to promote your technology and establish its scientific validity for possible application in other Superfund sites. EPA has established the Emerging Technology program specifically to assess innovative technologies. The person to contact for acceptable status is:

Donald Sanning
U.S. Environmental Protection Agency
Office of Research and Development
Emerging Technology Program (ETP)
Risk Reduction Engineering Laboratory
26 W. Martin Luther King Drive
Cincinnati, Ohio 45268


Telephone: (513) 569-7875

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Enclosed is a brochure of the Superfund Innovative Technology Evaluation (SITE) Program, where on Page 13 you will find more information on the ETP. Mr. Sanning will be able to address any concerns or questions you may have regarding the SITE process.

We wish you luck in your endeavor. If there are any questions, please call Mr. Hector Abreu-Cintrón at (215) 597-9562.

Sincerely,

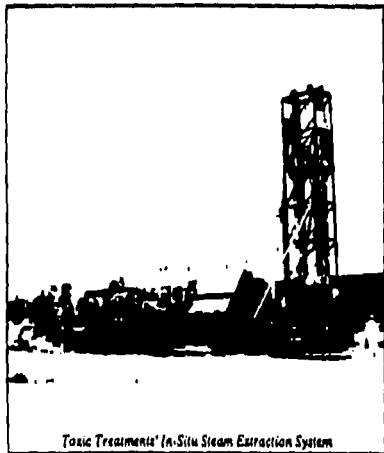

Stanley L. Laskowski
Acting Regional Administrator

Enclosure

cc: Donald Sanning

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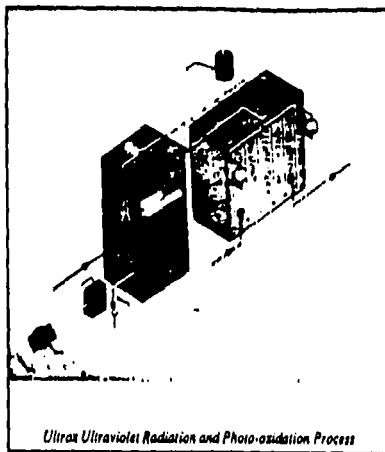
method of removing volatile organics from soil, using steam or air. The transportable unit uses drills that have been modified to allow for the expulsion of steam or air through the cutting blades. The modified drills allow the soil to become much more porous so that the injected, superheated steam and air can uniformly heat and strip the organic contaminants. Water and organic vapors are collected at the soil surface by a shroud and then



Toxic Treatment's In-Situ Steam Extraction System

processed to recover the pure water and organics. For steam stripping, the system is most practical for contaminants with boiling points less than 300-350°F (165-190°C). The remediation depth must be less than 27 feet and no underground obstacles larger than 14 inches in diameter should exist. Work is proceeding toward a demonstration in spring, 1989, at a San Pedro, California site currently undergoing cleanup using the Toxic Treatment's technology.

A new technology developed by Ultrax International, Inc. of Santa Ana, California destroys organic compounds in water using ultraviolet (UV) irradiation combined with ozone and/or hydrogen peroxide for photo-oxidation of organics. The method may be used to treat up to 10,000 to 20,000 ppm total organic carbon, and up to 1,000 ppm total toxic organics. Iron and manganese levels above 10-20 ppm require pretreatment and high bicarbonate levels slow process reaction rates. The skid-mounted, portable unit will treat between 5 and 50 gal/min of aqueous waste, depending on the type and concentration of contaminants. Major components of the system include a UV/oxidation reactor, an air compressor/ozone generator, and a hydrogen peroxide



Ultrax Ultraviolet Radiation and Photo-oxidation Process

feed system. In August, 1988, ULTRAX conducted treatability tests on samples from a San Jose, California site. EPA is reviewing the results of these tests to determine the suitability of the technology for demonstration at the San Jose site.

EMERGING TECHNOLOGIES PROGRAM

The Emerging Technologies Program (ETP) fosters the further investigation and development of treatment technologies that are not yet ready for full-scale demonstration. The goal of EPA's ETP is to test emerging technologies which are still at the laboratory scale. Successful validation could lead to the development of a system ready for field demonstration.

The ETP provides 2-year funding, through competitive cooperative agreements, to developers of emerging technologies. EPA will make available up to \$150,000 per year, to a maximum of \$300,000 over two years, to any individual developer.

The first set of ETP proposals were received in October, 1987. EPA received 84 preproposals, and seven projects were awarded first year funding totaling \$1,000,000. The Second Request for Proposal (RFP SITE E02) was released in July, 1988. Sixty responses to the solicitation were received and are currently being evaluated. EPA plans to release its third solicitation,

RFP SITE E03, in July, 1989, with preproposals due in September, 1989. Guidelines for preparing preproposals and the evaluation criteria will be available in the RFP.

If you would like to be put on the mailing list to receive a copy of the Emerging Program RFP write to:

Mr. William Fritsch
USEPA/RREL
26 W. Martin Luther King Drive
Cincinnati, Ohio 45268

SEVEN EMERGING TECHNOLOGIES PROJECTS ACCEPTED

The seven projects accepted in 1988 under the Emerging Technologies Program are described below.

The Chalk River Nuclear Laboratories of Atomic Energy of Canada Limited is developing a laboratory-scale demonstration unit to extract toxic metal cations from groundwater. The technology involves the use of ultrafiltration in combination with water soluble macromolecular compounds to selectively remove metal ions from aqueous waste solutions.

Battelle Memorial Institute, Columbus Division will perform a bench-scale test of an in-situ technology. The process treats soils contaminated with fuel oils, hazardous organic compounds, and heavy metals by the application of electric and acoustic fields.

Bio-recovery Systems, Inc., will test AlgaSORB, a sorption process based on the affinity of algae cell walls for heavy metal ions. Immobilized algae cells in a silica gel polymer are used in much the same way as ion-exchange resins.

The Colorado School of Mines is experimenting with constructed wetlands-based treatment technology. The technology is predicated on the concept of using natural geochemical and biological processes inherent in a wetlands ecosystem to remove and accumulate metals from influent waters as insoluble precipitates.

Energy and Environmental Systems, Inc. is investigating a technology designed to photochemically oxidize aromatics to non-toxic chemical species. A laser beam is used to contact and oxidize concentrated waste

particulates filtered and washed from groundwater. Enviro Field Services, Inc. will be conducting a series of laboratory tests on a soil washing process that uses a patented blend of solvents. The tests will determine how different soils separate from solvents using pressure filtration and centrifugation.

The Western Research Institute will conduct several tests of CROW: Contained Recovery of Oily Wastes. The CROW process uses conventional oil recovery technology with in-situ biodegradation to remediate hazardous oily waste accumulations.

DISSEMINATION OF TECHNOLOGY INFORMATION

EPA will document the SITE demonstration results in reports to be made available to Federal, State and private cleanup managers and other interested parties. Report summaries will be widely distributed, and reports sent by request. In addition, EPA Project Managers are available to discuss individual technology demonstrations. Technology developers are also available to discuss their processes. Phone numbers for these contacts are listed in the SITE Program Participants table.

Recognizing that access to this and other treatment information is essential to the acceptance and use of alternative technologies, the SITE program has developed an information clearinghouse to collect, synthesize, and disseminate technology performance data. The clearinghouse has three components:

- A Hotline will provide callers with up-to-date information on SITE projects, demonstration schedules and the availability of the results, and will also refer callers to other sources of information. The number is 800-424-9346, or 382-3000 in Washington, D.C.
- An electronic bulletin board, part of a planned computerized data base network, provides summary information on the SITE projects, demonstration schedules and results. Currently, this bulletin board is available only to Federal and State hazardous waste clean-up personnel. Contact the hotline for information on joining the electronic bulletin board.